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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/544,159

03/13/2006

Peter Stauss

5367-191PUS

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27799

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12/17/2009

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EXAMINER

WEISS, HOWARD

ART UNIT

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2814

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/544,159	Applicant(s) STAUSS ET AL.	
	Examiner HOWARD WEISS	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/21/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

Attorney's Docket Number: 5367-191PUS

Filing Date: 3/13/2006

Continuing Data: 371 of PCT/DE04/00121 (01/27/2004); RCE established 3/20/2009

Claimed Foreign Priority Date: 01/31/2003 (DEX)

Applicant(s): Stauss et al. (Ploessl)

Examiner: Howard Weiss

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1 to 6, 10, 13, 14, 16 to 23 and 25 to 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (U.S. Patent No. 6,287,882) and Yonehara et al. (U.S. Patent No. 5,453,394).

Chang et al. shows most of the instant invention (e.g. Figures 4 and Column 4 lines 4 to 46) including

- an optoelectronic semiconductor component being a LED or laser LED or a thin-film luminescence diode

- soldering a multilayered TFS body **41** to a carrier **44** with gold-containing solder
- the TFS body or at least one of said plurality of individual layers **522, 523, 524** (see Figure 5 and Column 5 Lines 28 to 41) based on a type III-V compound semiconductor material InAlGaP having the concentrations claimed
- metallic mirror layer **43** located between said TFS body and the carrier

Chang et al. do not show the carrier to be made of germanium (Ge). Yonehara et al. teach (Column 7 Lines 3 to 7) that Ge is an equivalent carrier material known in the art. Therefore, since these carrier materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to use Ge for the carrier material as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of invention. See Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. --, 82 USPQ2d 1385 (2007).

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al and Yonehara et al. as applied to Claims 1 and 13 above, and in further view of Kelly et al. (U.S. Patent No. 6,740,604).

Chang et al and Yonehara et al. show most aspects of the instant invention (Paragraph 2) except for the use of laser irradiation to strip the TFS body from the carrier. Kelly et al. teach (e.g. Figure 7) to use laser irradiation **1** to prevent the destruction of the surface of the semiconductor layer (Column 2 Lines 60 to 67). It would have been obvious to a person of ordinary skill in the art at the time of invention to use laser irradiation as taught by Kelly et al. in the process of Chang et al and Yonehara et al. to prevent the destruction of the surface of the semiconductor layer.

4. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al and Yonehara et al. as applied to Claims 1 and 13 above, and in further view of Dautartas (U.S. Patent No. 6,902,098).

Chang et al and Yonehara et al. disclose the claimed invention (Paragraph 2) except for the explicit formation of a gold-germanium eutectic. Dautartas teaches (Figure 4 and Column 3 Lines 16 to 18) that a gold-germanium eutectic is an equivalent solder material known in the art. Because this solder material is an art-recognized equivalent known at the time of the invention was made, one of ordinary skill in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the use of said solder material would have yielded predictable results. See Supreme Court decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 YSPQ2d 1385 (2007).

5. Claim 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al and Yonehara et al. as applied to Claims 1 and 13 above, and in further view of Dauplaise et al. (U.S. Patent No. 6,380,097).

Chang et al and Yonehara et al. disclose the claimed invention (Paragraph 2) except for the use of InAsGaP or InAlGaAs as the type III-V compound semiconductor material. Dauplaise et al. teach (Column 4 Lines 45 to 53) that InAsGaP or InAlGaAs are equivalent type III-V compound semiconductor materials known in the art. Because InAsGaP or InAlGaAs are art-recognized equivalents known at the time of the invention was made, one of ordinary skill in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the use of InAsGaP or InAlGaAs as type III-V compound semiconductor material would have yielded predictable results. See Supreme Court decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 YSPQ2d 1385 (2007).

6. Claims 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al and Yonehara et al. as applied to Claims 1 and 13 above, and in further view of Schetzina (U.S. Patent No. 5,670,798).

Chang et al and Yonehara et al. disclose the claimed invention (Paragraph 2) except for the use of InAsGaN as the type III-V compound semiconductor material. Schetzina teaches (Column 14 Lines 45 to 54) that InAsGaN is an equivalent type III-V compound semiconductor material known in the art. Because InAsGaN is an art-recognized equivalent known at the time of the invention was made, one of ordinary skill in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the use of InAsGaN as type III-V compound semiconductor material would have yielded predictable results. See Supreme Court decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 USPQ2d 1385 (2007).

Response to Arguments

7. Applicant's arguments with respect to Claims 1 to 10 and 13 to 30 have been considered but are moot in view of the new ground(s) of rejection. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The combination of the type III-V semiconductor material based optoelectronic device shown in Chang et al. (i.e. LED; see Column 5 Lines 28 to 41) and the Ge substrate of Yonehara et al. render the instant invention obvious.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the

level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For these reasons and those stated in the rejections above, the pending claims remain rejected.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2814 Fax Center number is **(571) 273-8300**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard Weiss at **(571) 272-1720** and between the hours of 7:00 AM to 3:00 PM (Eastern Standard Time) Monday through Friday or by e-mail via Howard.Weiss@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy, can be reached on **(571) 272-1705**.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

12. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass(es): 257/ 98; 438/ 455, 458, 933	thru 12/8/2009
Other Documentation: none	
Electronic Database(s): EAST	thru 12/8/2009

HW/hw
17 December 2009

/Howard Weiss/
Primary Examiner
Art Unit 2814